Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) A method of suppressing corrosion of a reactor structural member **of a water-cooled nuclear reactor**, comprising:

controlling a corrosion potential of the reactor structural member by providing a corrosion potential reducing substance on a surface of the reactor structural member, the corrosion potential reducing substance being a photocatalytic substance which produces an electromotive force under an irradiation of a light or a radioactive ray in ~~a~~ **the water-cooled** nuclear reactor, the corrosion potential reducing substance being formed as particles made of TiO_2 prior to introduction into water **which is a coolant** of the **water-cooled nuclear** reactor, each particle having a surface on which at least one of Pt, Rh, Ru and Pd is provided,

wherein a solution or a suspension of a composition containing the photocatalytic substance is added to the water of the **water-cooled nuclear** reactor so as to make the photocatalytic substance adhere to the surface of the reactor structural member or to form a film of the photocatalytic substance on the surface of the reactor structural member, and

wherein the reactor structural member is made of an iron-base or nickel-base alloy, and the corrosion potential reducing substance is formed on a corrosion oxide film formed on the surface of the reactor structural member .

11. (Canceled)

12. (Currently Amended) The method according to claim 10, **wherein the water-cooled nuclear reactor is a boiling water reactor, and the water is a feedwater which is a coolant of the boiling water reactor,**

the method further comprising controlling an iron concentration of ~~a~~ **the** feedwater in the ~~nuclear~~ **boiling water** reactor.

13. (Canceled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Previously Presented) The method according to claim 10, wherein the corrosion potential reducing substance is formed on the surface of the reactor structural member as a film having a thickness in a range of 0.1 to 1 μm.

18. (Cancelled)

19. (Previously Presented) The method according to claim 10, wherein the corrosion oxide film has an outer layer having a property of an n-type semiconductor and an inner layer having a property of a p-type semiconductor, or has a single layer having a property of a p-type semiconductor.

20. (Currently Amended) The method according to claim 19, wherein, when the corrosion oxide film has the outer layer having a property of an n-type semiconductor and the

inner layer having a property of a p-type semiconductor, the corrosion potential reducing substance is formed on the corrosion oxide film of the reactor structural member after making the outer layer unstable by increasing a hydrogen concentration of the ~~reactor~~ water or after removing the outer layer by a decontamination process.

21. (Original) The method according to claim 20, wherein the outer layer having a property of an n-type semiconductor is removed by a chemical decontamination process, an electrolytic decontamination process or a laser decontamination process.

22. (Original) The method according to claim 21, wherein the outer layer having a property of an n-type semiconductor is removed by irradiating the outer layer with a laser light in a water.

23. (Currently Amended) The method according to claim 10, **wherein the water-cooled nuclear reactor is a boiling water reactor including a nuclear fuel and a condensing system in which a purifier is placed, and the water is a feedwater which is a coolant of the boiling water reactor,**

and wherein a loose deposition of a hematite on a surface of ~~a~~ **the** nuclear fuel is suppressed by controlling an iron concentration of ~~a~~ **the** feedwater in the ~~nuclear~~ **boiling water** reactor by ~~a~~ **the** purifier placed in ~~a~~ **the** condensing system of the ~~nuclear~~ **boiling water** reactor.

24. (Original) The method according to claim 23, wherein the purifier includes a filter device and a demineralizer device.

25. (Currently Amended) The method according to claim 10, **wherein the water-cooled nuclear reactor is a boiling water reactor including a feedwater system, and the water is a feedwater which is a coolant of the boiling water reactor,**

the method further comprising injecting hydrogen or methanol through ~~a~~ **the** feedwater system of the ~~nuclear~~ **boiling water** reactor into ~~a reactor water~~ **the feedwater**.

26. (Currently Amended) A method of suppressing a corrosion of a reactor structural member **of a water-cooled nuclear reactor which is a boiling water reactor including a nuclear fuel**, comprising:

controlling an iron concentration of a feedwater ~~in~~ **which is a coolant of** the ~~nuclear~~ **boiling water** reactor so that a hematite in a loose deposition is not produced on a surface of ~~a~~ **the** nuclear fuel;

depositing at least one of Pt, Rh, Ru and Pd on a corrosion oxide film formed on a surface of the reactor structural member in a mass per unit area of 0.1 $\mu g/cm^2$; and

controlling a quality of ~~a reactor water~~ **the coolant** so that the ~~reactor water~~ **coolant** has an oxygen/hydrogen molar ratio in a range of 0.4 to 0.5.

27. (Currently Amended) A method of suppressing corrosion of a reactor structural member **of a water-cooled nuclear reactor**, comprising:

controlling a corrosion potential of the reactor structural member by providing a corrosion potential reducing substance on a surface of the reactor structural member, the corrosion potential reducing substance being selected from the group consisting of a photocatalytic substance which produces an electromotive force under an irradiation of a light or a radioactive ray in the **water-cooled** nuclear reactor and a metal or a metal compound which forms the photocatalytic substance under a condition specified by a temperature and a

pressure in the **water-cooled** nuclear reactor, the corrosion potential reducing substance being formed as particles made of TiO_2, each particle having a surface on which at least one of Pt, Rh, Ru and Pd is provided, the one of Pt, Rh, Ru and Pd being provided on a Ti particle prior to introduction of the particle into ~~**feedwater**~~ **water which is a coolant** of the **water-cooled nuclear** reactor.

28. (Currently Amended) A method of suppressing corrosion of a reactor structural member **of a water-cooled nuclear reactor**, comprising:

substantially reducing a corrosion potential of the reactor structural member by providing a corrosion potential reducing substance on a surface of the reactor structural member, the corrosion potential reducing substance being a photocatalytic substance which produces an electromotive force under an irradiation of a light or a radioactive ray in the **water-cooled** nuclear reactor, the corrosion potential reducing substance being formed as particles made of TiO_2 prior to introduction into water **which is a coolant** of the **water-cooled nuclear** reactor and introduced into the **water-cooled nuclear** reactor with the water, each particle having a surface on which at least one of Pt, Rh, Ru and Pd is provided.

29. (Previously Presented) The method according to claim 28, wherein substantial quantities of particles made of TiO_2 are present in the corrosion potential reducing substance.

30. (Previously Presented) The method according to claim 28, wherein a solution or a suspension of a composition containing the photocatalytic substance is added to the water of the reactor to form a film of the photocatalytic substance on the structural member as a result of the addition of the solution or suspension to the water of the reactor.

31. (Previously Presented) The method according to claim 30, wherein the film has a thickness of 0.1 micrometers to 1 micrometers.

32. (Cancelled)

33. (Previously Presented) The method according to claim 10, wherein the corrosion potential reducing substance is adhered to the surface of the reactor structural member.

34. (Previously Presented) The method according to claim 28, wherein the corrosion potential reducing substance is adhered to the surface of the reactor structural member.